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TITLE : PRODUCTION OF POLY-3-HYDROBUTYRATE

ABSTRACT : PURPOSE: To inexpensively recover useful resources by culturing activated sludge while controlling concentration of organic carbon in a medium and suppressing formation of glycogen.

CONSTITUTION: Activated sludge is cultured in a medium containing sufficient glucose, a yeast essence-based substrate and a water-soluble element such as N, P or S to give activated sludge (A) having high concentration of cell. Then the component A is aerobically cultured in a medium containing 2.0-4.0g/l concentration of organic carbon such as acetic acid, butyric acid or propionic acid and not containing a nitrogen source at pH6-8 at 25-30°C by semi-batch method to give a component B. Then the culture is continued for several hours to several days, the N source in the component B is extinguished and poly-3- hydrobutyrate (PHB) (C) is accumulated. Then the culture is carried out to make 40-60wt.% carbon amount per cell unit weight and the culture is stopped to give a culture mixture (D). Then the cell is separated from the component D and the prepared cell is extracted and separated to produce poly-3- hydrobutyrate.

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